

PATENT APPLN. NO. 10/809,848
SUBMISSION UNDER 37 C.F.R. § 1.114

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REMARKS

A new claim, claim 16, has been added to the application. Claim 16 recites that the electrically conductive powder of claim 11 is made from copper, nickel, iron, titanium, cobalt, an alloy or mixture thereof. This claim, which presents a limitation not previously considered by the Office, is supported by the description on page 10, lines 15 to 18, of the specification of the present application.

In the Final Action, the Office maintained the rejection of claims 1-15 under 35 U.S.C. 103(a) as being unpatentable over Fujimoto et al. (U.S. Patent No. 6,887,623 B2) (hereinafter: "Fujimoto"), in view of Fukui et al. (EP 1,335,438 A1) (hereinafter: "Fukui") that was made in the first Action in this application.

In response to this rejection in the first Action applicants had argued that Fujimoto does not, as the Office had alleged, disclose a negative electrode for a rechargeable lithium battery and a method for fabricating the electrode which meets all of the limitations of claims 1 and 12 of the present application except for the use of a binder in forming the electrode active material layer.

The Office rejected this argument and maintained its position that the negative electrode of Fujimoto meets all of the limitations of claims 1 and 12 of the present application except for the use of a binder in forming the electrode active material layer. In view of this position, the Office took the further position that it would have been obvious "to insert the teachings of Fukui et al. into the teachings of Fujimoto et al. because the binder [of Fukui] would provide increased adhesion of the active material to the substrate." (Action, page 3, lines 10-12).

Applicants again respectfully submit that the proposed modification of Fujimoto is not proper.

The invention of Fujimoto is a current collector having irregularities on its surface and a "thin film having spaces extending in a thickness direction of the thin film and configured to increase their width direction toward valleys of the irregularities on the current collector surface." (Claim 1, lines 5-8). The thin film of Fujimoto is deposited on the current collector by methods such as CVD, sputtering, vapor evaporation, spraying and plating (refer to Col. 3, lines 28-34, of Fujimoto) and does not comprise "particles of active material containing silicon" as alleged by the Office in the Action (Action, page 2, lines 5-6 from the bottom of the page).

Initially, applicants note that it appears that the position of the Office regarding combining the active material of Fujimoto with a binder may be based on a misunderstanding by the Office of the active material of Fujimoto. The Office states in the Action that the active material of Fujimoto is "particles of material containing silicon" citing Col. 3, lines 19-28, of Fujimoto. This position is not correct. Col. 3, lines 19-28, of Fujimoto merely describes that the active material of the electrode of Fujimoto includes silicon in the noncrystalline or microcrystalline form. A description of the use of silicon in the noncrystalline or microcrystalline form cannot be properly interpreted as being a description of particles of silicon particularly when, as noted above, Fujimoto discloses that the thin film is a film formed by deposition by CVD, sputtering, vapor evaporation, spraying and plating.

Since the active material of Fujimoto is not in the form of particles there can not be a motive to combine a binder (used to bind particles) with the active material.

Also, if the position of the Office is that a person of ordinary skill in the art would somehow incorporate a binder in the thin film of Fujimoto that is deposited on the current collector by methods such as CVD, sputtering, vapor evaporation, spraying and

plating, such position is improper because the Office has not shown how a binder could be incorporated into such thin film. The Office has not supported its position with art showing the (possibility of) incorporating of a binder in a thin film deposited on the current collector by methods such as CVD, sputtering, vapor evaporation, spraying and plating.

Moreover, the Office has not explained how, if the "binder [of Fukui] would provide increased adhesion" a thin film "having spaces extending in a thickness direction of the thin film and configured to increase their width direction toward valleys of the irregularities on the current collector surface", as required by the invention of Fujimoto, could be formed. The use of a binder would appear to be inconsistent with the object of the invention of Fujimoto.

For the above reasons, removal of the 35 U.S.C. 103(a) rejection of the claims is believed to be in order and is respectfully requested.

The foregoing is believed to place this application in condition for allowance. If, however, minor issues remain that can

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be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,

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